

REMARKS

The Office Action of April 25, 2006, has been received and reviewed.

Claims 1-60 are currently pending and under consideration in the above-referenced application.

Reconsideration of the above-referenced application is respectfully requested.

Rejections under 35 U.S.C. § 103(a)

A new rejection has been presented against claims 21-23, 32, 33, and 36-38, the previous rejections of which were reversed on appeal.

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Pramanik in View of PAPA

Claims 21, 23, 32, 33, and 36-38 stand rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is allegedly unpatentable over the subject matter taught in U.S. Patent 5,852,497 to Pramanik et al. (hereinafter "Pramanik"), in view of purportedly admitted prior art (hereinafter "PAPA") teachings.

Pramanik teaches a process for locating or identifying conventional alignment marks on a substrate. Col. 1, lines 63-65; col. 10, lines 36-39. The alignment marks that are identified in the process of Pramanik comprise shallow trench isolation (STI) structures that are covered by one or more layers of opaque material. Col. 2, lines 60-63. The process of Pramanik is effected once the substrate has been brought to a desired destination—a photolithography apparatus in which

photoresist is selectively exposed to radiation. *See* col. 4, lines 10-26. When the substrate is at the desired destination and the positions of the alignment marks have been identified, one or both of the substrate and a reticle may be oriented in such a way that moved to align the substrate and the reticle with one another. Col. 3, line 45; *see also* col. 1, lines 27-30.

The PAPA upon which the Office relies in rejecting claims 21, 23, 32, 33, and 36-38 is the use of visible characters or other indicia to identify a semiconductor device or substrate, as well as a possible destination therefor.

Independent claim 21 recites a method for determining a destination of a semiconductor device substrate. That method includes identifying a mark that comprises at least one recess within a surface of the semiconductor device substrate, which mark is covered with at least one layer of material. Such identification includes scanning electromagnetic radiation over a plurality of locations of the substrate, detecting locations at which an intensity of the electromagnetic radiation changes from substantially a baseline intensity, and correlating each such location to identify the mark. Once the mark has been identified, a predetermined destination for the substrate may also be identified.

It is respectfully submitted that a *prima facie* case of obviousness has not been established against any of claims 21, 23, 32, 33, or 36-38 because, without the benefit of hindsight that the rejected claims provide to the Office, one of ordinary skill in the art wouldn't have been motivated to combine teachings from Pramanik with the PAPA in the asserted manner. Specifically, Pramanik and the PAPA both lack any teaching or suggestion that indicia that are useful for identifying a particular destination for one or more semiconductor devices may be recognized and identified by the system of Pramanik. Rather, the teachings of Pramanik are limited to recognition of relatively uniform, repeated STI structures.

Therefore, under 35 U.S.C. § 103(a), the subject matter to which amended independent claim 21, as well as claims 23, 32, 33, and 36-38 depending therefrom, is directed, is allowable under 35 U.S.C. § 103(a).

Rejections Affirmed on Appeal

In view of the amendments to independent claims 1, 21, 41, and 59 that have been presented herein, it is respectfully submitted that rationale set for by the Examiner during prior prosecution of the above-referenced application, and affirmed by the Board of Patent Appeals and Interferences in its decision on the previous appeal of the final rejections that were presented in the above-referenced application, no longer applies to any of these claims or the claims that depend therefrom.

Notably, each of independent claims 1, 21, 41, and 59 has been amended to recites that electromagnetic radiation is directed through at least one material layer that is substantially opaque to at least *visible wavelengths* of electromagnetic radiation. While it is noted that Pramanik teaches that radiation may be directed through visibly opaque materials to recognize the orientation of STI structures, it is also noted that one of ordinary skill in the art would not equate recognition of the orientation of an STI structure with identification of indicia on a semiconductor device structure. Furthermore, neither Pramanik nor any of the other art upon which the Office has based its rejections would have provided one of ordinary skill in the art with a reasonable expectation that the teachings of Pramanik could be used in such a way as to facilitate the identification of indicia on semiconductor device structures.

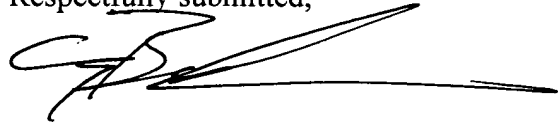
With respect to the asserted combination of teachings from Noguchi with the teachings of Pramanik, it is respectfully pointed out that the teachings of Noguchi are limited to recognition of indicia through transparent material layers with wavelengths of electromagnetic radiation to which the material layers are transparent. Again, neither Pramanik nor Noguchi would have provided one of ordinary skill in the art that specific, destination-identifying indicia, could have been recognized or identified through one or more material layers that are substantially opaque to at least visible wavelengths of electromagnetic radiation.

As such, it is respectfully submitted that the previous grounds of rejection are inapplicable to independent claims 1, 21, 41, and 59, as amended and presented herein, as well as to their respective dependent claims.

CONCLUSION

It is respectfully submitted that each of claims 1-60 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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